

Production One with SAP Business One User Guide Version 08.21

Table of Contents

Production One for SAP Business One

Introduction	3
About This Guide	3
Contacting Navigator Business One Solutions	3
What is Production One?	4
Production One Features	4
Installation	6
Licensing the Software	11
Setup	13
Production One Options	13
Production One Options	14
Resource Management	17
Bill of Manufacturing	20
Production	23
Production Orders for Make to Stock	23
Production Orders for Make to Order	24
Purchase & Produce Direct to Production Orders	28
Scheduling and Reporting	31
Production Scheduler	31
Export to MS Project	33
Production Order Traveler	35
ECN's & Revision Control	38
Item Master Data ECN Managed Flag	38
ECN Management	38
Revision Control	41
ECN List	41
Where Used	42
Production One APS:	43
XL Estimator	48
Reporting	53
Accounting Transactions	53
Issue for Production	54
Receipt from Production	56
– Production Order Summary	57
Appendix 1	59
Appendix 2	62
Appendix 3	63

Introduction

About This Guide

This guide will outline the additional screens and functionality provided to SAP Business One by B1 Systems Production One Add-On. This guide will also provide how to steps for the processes of Production One. It is assumed that readers of this manual will have a basic understanding of SAP Business One.

Contacting B1 Systems

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What is Production One?

Production One Features

Production One extends SAP Business One production to full manufacturing by extending Business One functionality and adding some new features outlined below.

- **Job Costing & Scheduling**

- Make to Stock: Supports MRP/Order Recommendation Report.
- Make to Order : Create Production Orders from inside Order Entry for Specials
- .Resource (Work centre) / Operations for scheduling & costing production orders.
- Track Direct Labour, Overhead, Materials, Setup, Wait, Scrap, Outside Services, & Rework.
- Purchase & Receive materials direct to the Production Order.
- Make & Issue Productions orders for sub-assemblies based on the master assemblies Bill of Manufacturing.
- Process labour **time cards** through **batch** data entry.
- Track Projects through Sales Orders to Purchase Orders to Production Orders.

- **Touch Screen and Bar Code Data Collection**

- Automate data collection of production data.
- Touch screen terminals or wedge bar code scanners.
- Back flush (Auto Issue) Materials by Operation.
- View work instructions, drawings, documents, videos on the shop floor.

- **Quality Management**

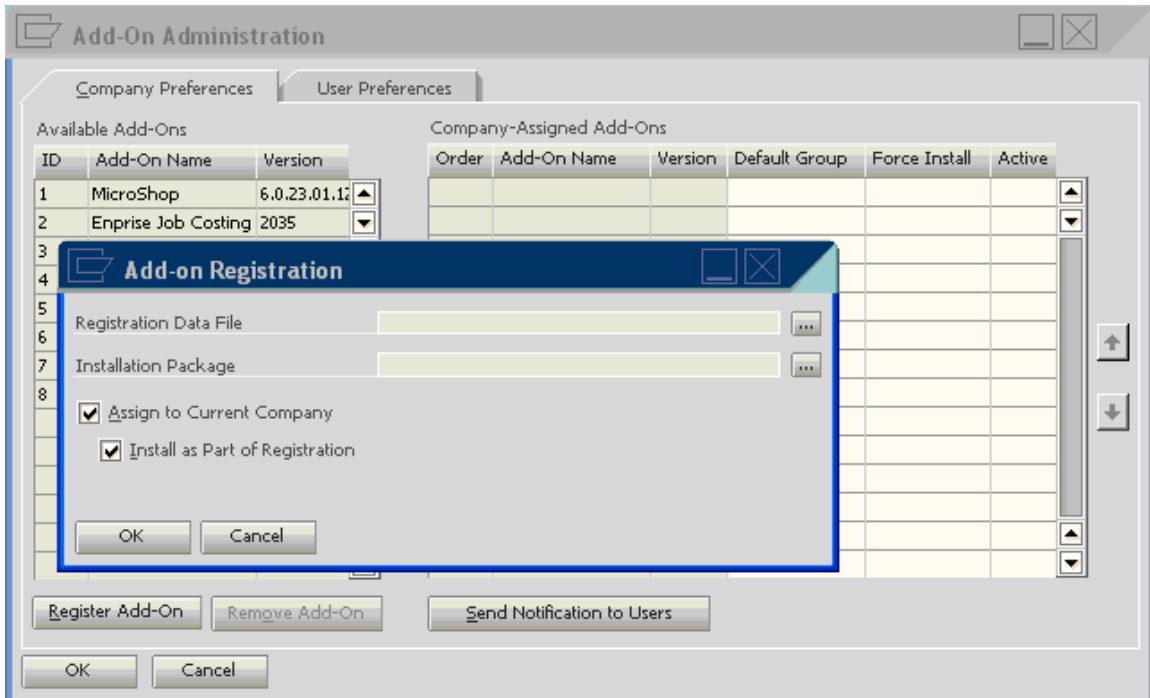
- Simple, flexible means for collecting quality data on the shop floor.
- Track Scrap and Rework and Reasons Codes.

- **Engineering Change & Revision Control**

- Engineering & revision control to items, Bill of Manufacturing.
 - Item **Where Used** for BOM'S and Production Orders.
- **Quoting & Estimating**
 - XL Estimator attaches an estimating spreadsheet template to Quotes and Sales Orders.
- **Reporting**
 - Utilizes Standard Business One Reporting – Query Wizard, XL Reporter, Drag and Relate.
 - Includes Shop Traveller & Shop Dispatch Reports.
 - Crystal One Work - In - Process (WIP) & Production (Job) Cost reports.
 - Export to MS Project.
- **Multilingual:**
 - Localized and Translatable to French, Spanish and other languages.

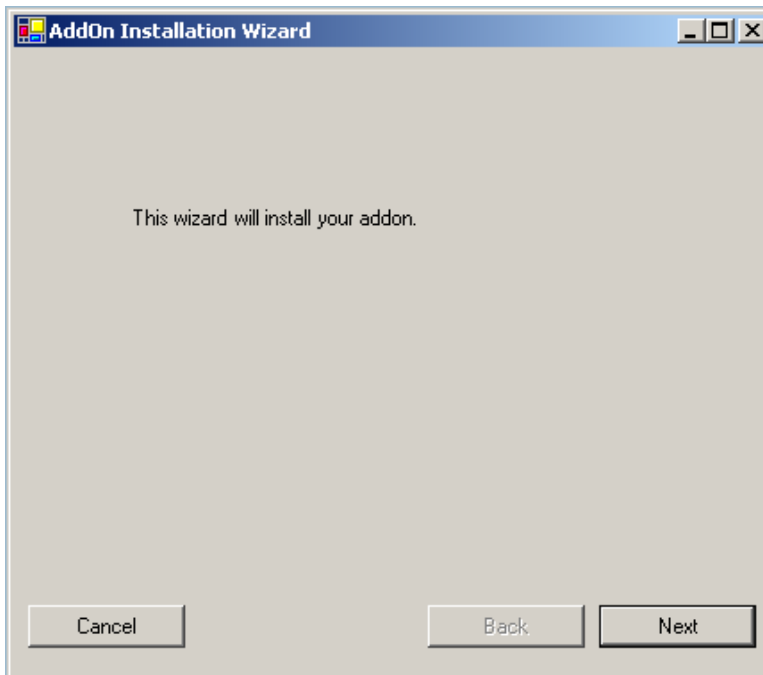
Installation

Production One is installed from inside SAP Business One in the Add-On Administration.

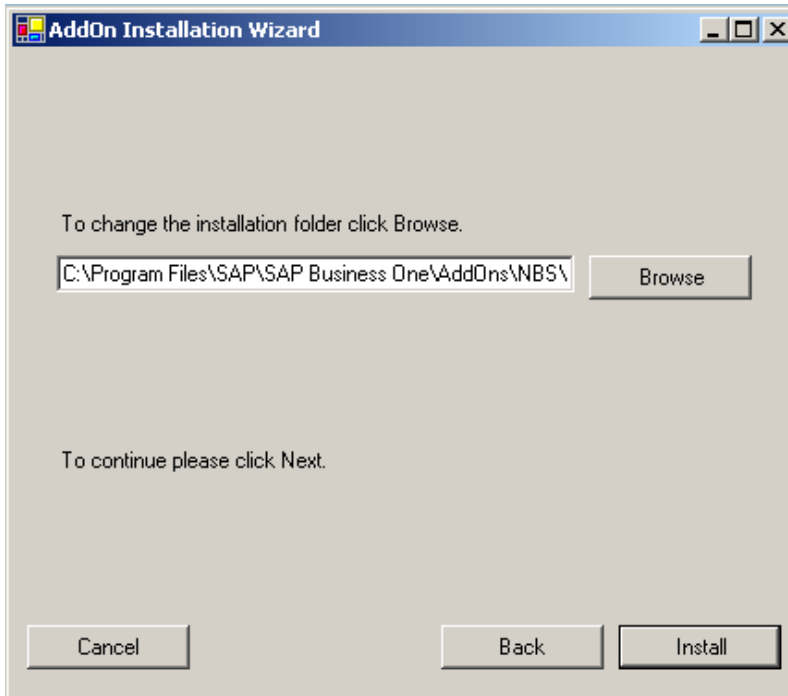


- Unzip the **ProductionOne.zip** archive and save the two files it to a folder on the target PC (ProductionOne.ard and ProductionOneInstaller.exe)
- Login to SAP Business One as a user with administrative rights.
- Go to **Administration, Add-Ons** and then click **Add-On Administration**.
- Once the **Add-On Administration** window opens, click **Register Add-On**.
- Go to the **Add-On Registration Data File**: Browse to the **ProductionOne.ard** file and select it.
- Go to the **Add--In Installation Package**: Browse to the **ProductionOneInstaller** file and select it.
- Leave **Assign to Current Company** checked.
- Leave **Install as Part of Registration** checked and click **OK**.

The following screen will appear Click on **Next** to continue install.

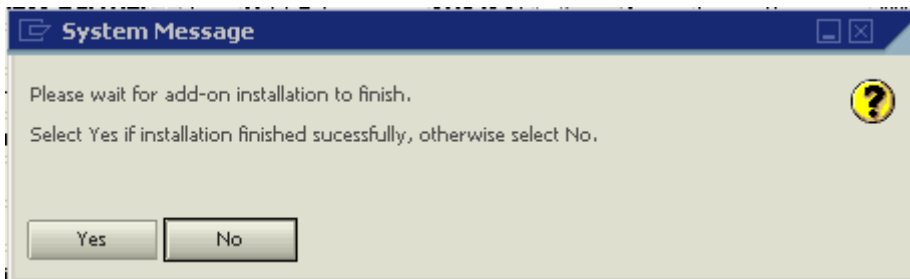


Click on **Install** to continue.

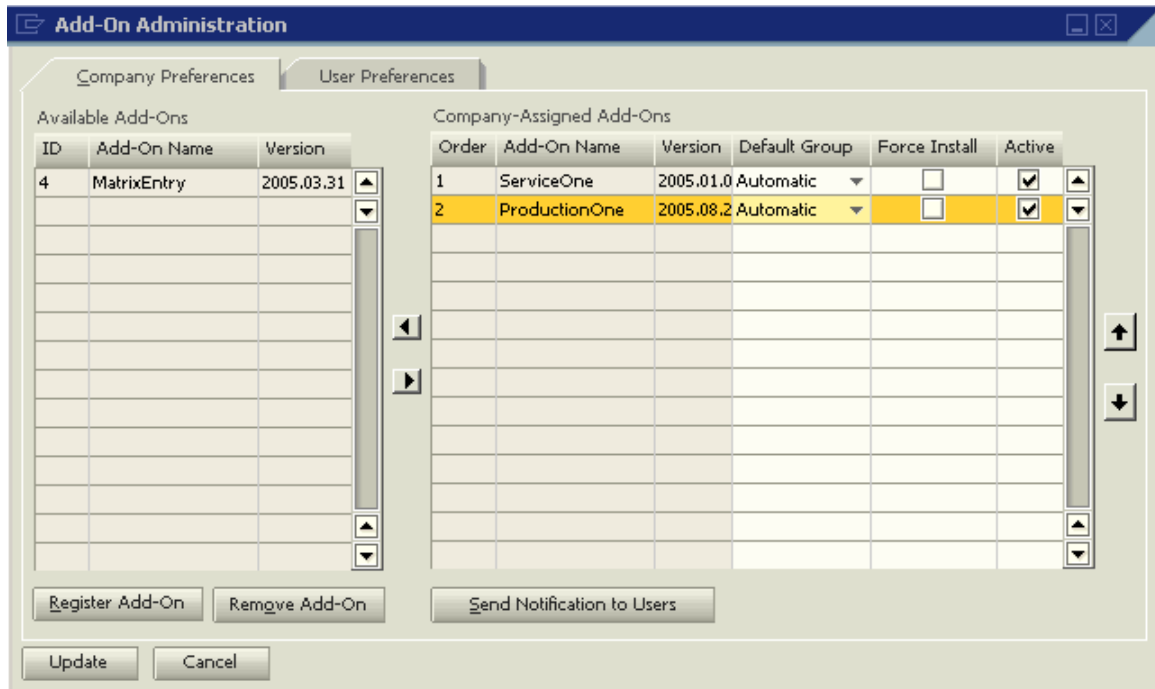


Click on Finish to complete the Installation Wizard.

On the screen below Click on Yes to complete the Add-On installation, provided that the Installation Wizard has been completed successfully.



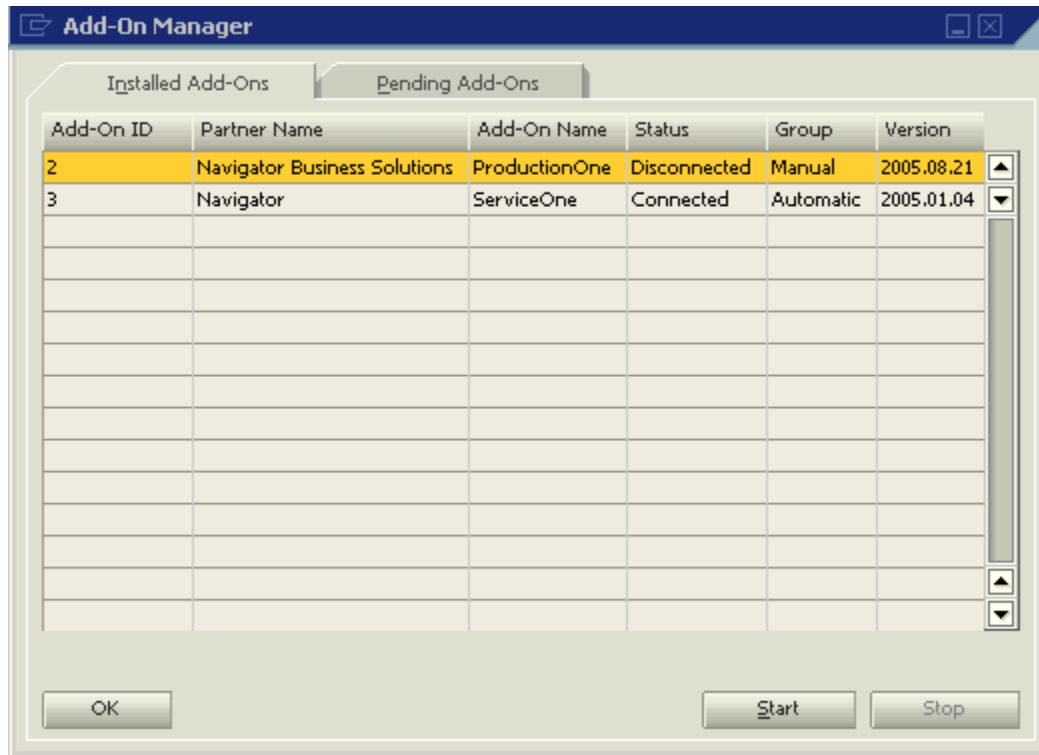
Change the Add-On settings for **Production One** as follows:
Administration>Add-On>Add-On Administration.



Register the Add-On to the company and change the default group from Manual **Automatic**. This will load the Production One Add-On each time that SAP is used.

Click on **Update** followed by **OK** to complete the configuration process.

Administration>Add-On>Add-On Manager.



Click **Start** to start the Add-On, and then **OK**. Then Restart SAP.

NOTE: Now that the Add-On is set to start automatically with SAP, the first time that S

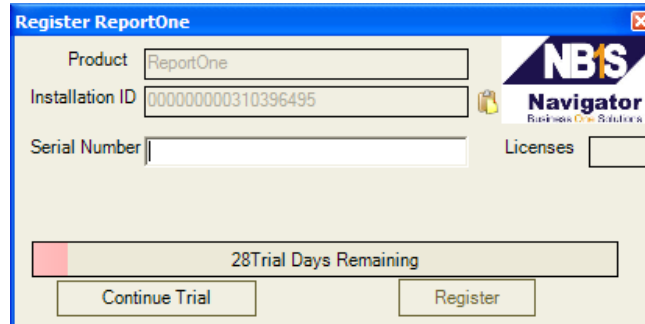
AP is started, a database initialization process will run. This may take anywhere from 10 seconds to 1 minute. During this time stored procedures and additional fields and data are being added to the database.

Licensing the Software

Navigator licenses are required to run any version of Production One.

Here is a brief overview of how the licensing works:

When the Add-On runs for the first time, and until the trial period has expired unless a valid License Key is entered the following screen will appear.



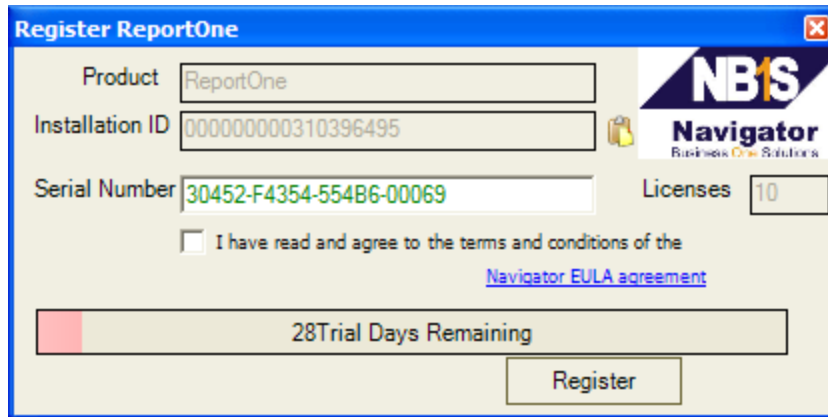
Click on the copy Button to the right of the Installation ID field. Then Paste the info into an Email and send it to LicenseRequest@nb1s.com

Example Info copied to the clipboard

Please Email the Following Information to LicenseRequest@nb1s.com
Company Name:
Product ID: ProductionOne
Install Id: Your Installation ID
Users: Number of user licenses required.

While the License is being processed the Add-On will be available in the 30 day trial mode, with full functionality.

When the license is available, start and stop the Add-On or log out and back into SAP, when the registration screen prompts for the license again past it into the Serial Number field (which; will turn green).



Register ReportOne

Product: ReportOne

Installation ID: 000000000310396495

Serial Number: 30452-F4354-554B6-00069

Licenses: 10

☐ I have read and agree to the terms and conditions of the [Navigator EULA agreement](#)

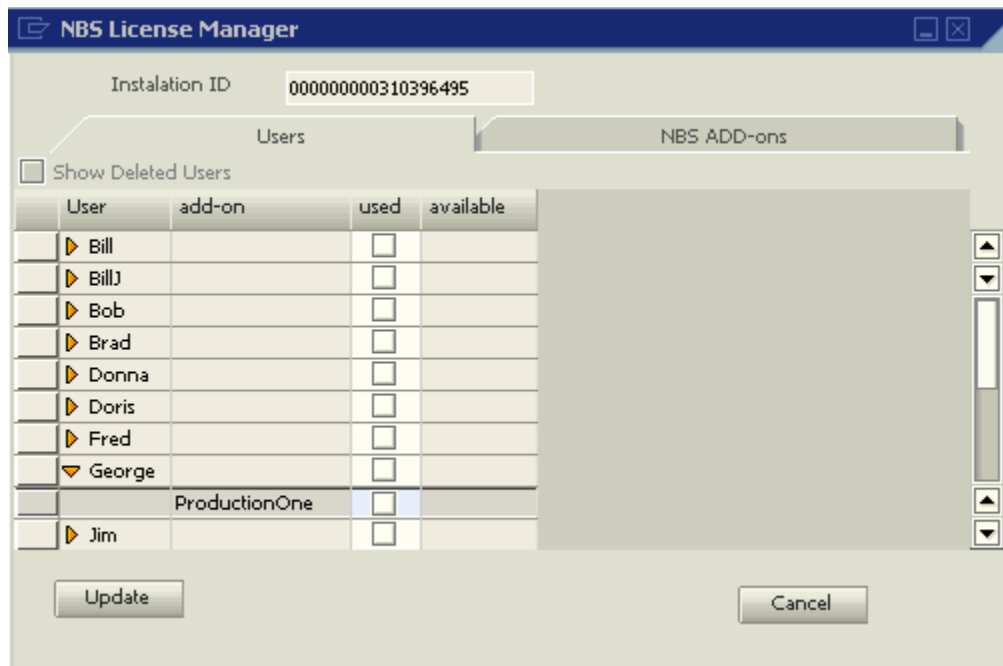
28 Trial Days Remaining

Register

Review the terms, check the box to agree to the EULA and then hit register

It is necessary to assign users to the available Licenses, up to the number of licenses obtained.

On the main menu click **Administration>License>NBS License Manager**



NBS License Manager

Installation ID: 000000000310396495

Users | NBS ADD-ons

☐ Show Deleted Users

User	add-on	used	available
▶ Bill		<input type="checkbox"/>	
▶ BillJ		<input type="checkbox"/>	
▶ Bob		<input type="checkbox"/>	
▶ Brad		<input type="checkbox"/>	
▶ Donna		<input type="checkbox"/>	
▶ Doris		<input type="checkbox"/>	
▶ Fred		<input type="checkbox"/>	
▼ George		<input type="checkbox"/>	
	ProductionOne	<input type="checkbox"/>	
▶ Jim		<input type="checkbox"/>	

Update Cancel

- Select the user that to whom the license applies to.
- Click on the gold arrow to view the details.
- Apply the licenses to the users and hit update.
- When finished either log off then on to SAP or stop and start the Add-On (using the Add-On Manager). Now the selected users will have access to given Add-On.

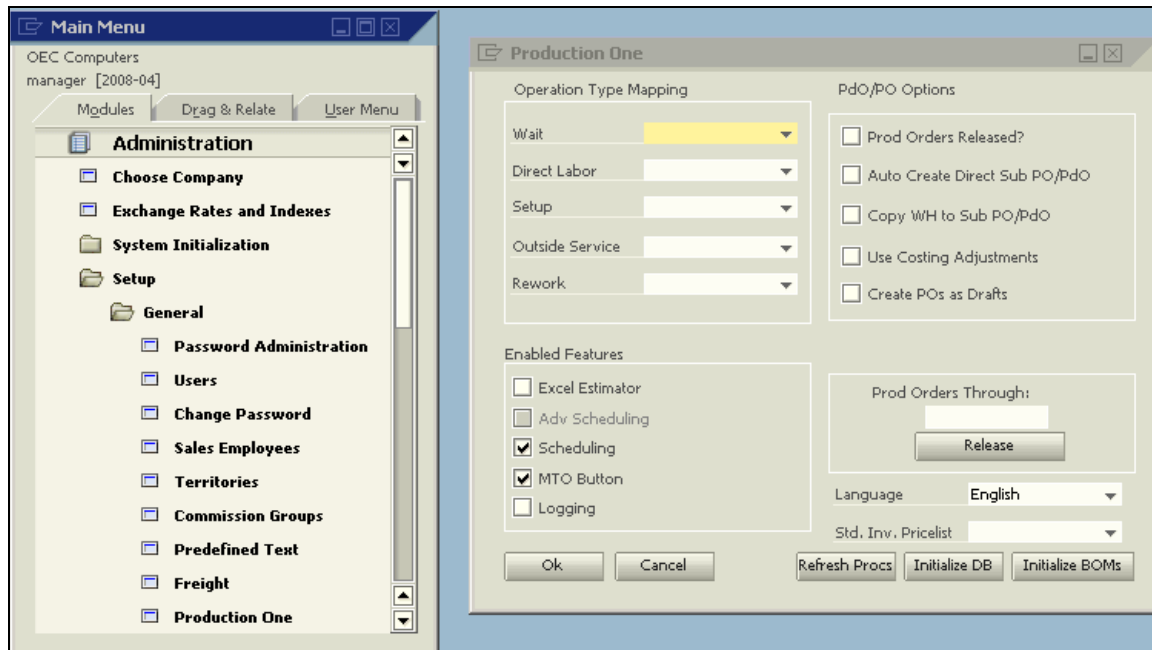
Setup

Production One Options

Production One provides setup options; from the Administration module go to Setup>General>Production One.

- Select the appropriate warehouse for Wait time, Direct Labour, Setup, Outside Services, and Rework. This is done so each type of labour is managed by its own set of GL accounts.
 - **NOTE:** Warehouses must be defined before labour can be mapped to the appropriate warehouse. It is recommended the appropriate labour absorption GL accounts be created and mapped to the appropriate warehouse. The default GL accounts from the warehouse will determine the general entries for each resource type. It is recommended to create GL accounts for applied labour to be set as the default inventory account in the warehouses for direct labour and rework. It is also recommended to use the applied labour GL account as the default for the inventory offset increase/decrease account in these warehouses. See *Appendix 1* for more information.

Production One Options



- **PdO/PO Options**
 - **Production Orders Released:** Production orders are automatically released for production at the time the orders are created, either from a Sales Order, or the MRP Recommendation Report. When this option is selected.
 - **Auto Create Sub PO/PdO:** Check this box to enable the option to create Purchase Order(s) and sub assembly production orders with the MTO button from the Sales Order screen.
 - **NOTE:** To use this option select either **Y** or **N** in the direct field on the bill of manufacturing for each component. In order to create sub PO's or PdO's with the MTO button, the direct flag must be set to "Y" for the items or sub-assemblies on their BOM's and the Issue method must be Manual. Each component not produced or purchased direct to the job must be flagged as "N" on the BOM'S.
 - **Use Costing Adjustments:** Updates the Item Cost when a Receipt from Production is performed to reflect the current Production cost.
 - **Create PO's as Drafts:** Purchase orders created as drafts for later approval.
- **Enabled Features:** Check the flags for the features, which; should be enabled while using Production One.
 - **Excel Estimator:** check this flag to use Excel spreadsheets for sales quotes and would like to enter them into Business One sales quotes.

- Place the Estimate Sales.xls template file in the appropriate location within your SAP installation. Typically c:\Program Files\SAP\SAP Business One\Attachments or ExclDocs.
- **Adv Scheduling:** Check this flag to use the advanced scheduling module, provided that it has been installed.
- **Scheduling:** Check this flag if to enable the Production One scheduler.
- **MTO:** Check this flag to create production orders, or sub production orders using the MTO button from the sales order screen.
- **Logging:** Enables logging for trouble-shooting purposes, in the event that a defect is found in the Add-On.
 - Generally this should not be enabled.

Production Orders Through: Allows release of production orders in batches; enter the date in the "Prod Orders Through" field and click **Release** to release all planned production orders entered into the system prior to the desired date.

Std. Inv. Pricelist: The standard cost price list is used in the goods receipt transaction for labour when it is posted through Data Collect. This happens because a labour is not stored in inventory, so Data Collect receives the labour into the warehouse and then issues it automatically to the job. Business One uses the standard cost price list in the goods receipt transaction. Production One uses the standard cost price list in the goods receipt assuming that it matches the actual item cost. The standard cost list is also used to calculate the standard BOM cost and also to roll up the total cost of each component.

Refresh Procs: Used to force initialization of the database for Production One user-defined tables, fields and objects.

Initialize DB: Used to force initialization of the database for Production One user-defined tables. fields and objects.

Initialize BOM's: Initializes all BOM's that were entered in Business One prior to installing Production One and will update necessary user defined fields and quantities to the BOM'S for use with Production One. The initialize process allows the user to update a group of BOM's or a single BOM selection. The initialization process can take a significant amount of time depending on the quantity and complexity of any existing BOM's.

Note: Place the Bitmap files in the c:\Program Files\SAP\SAP Business One\Bitmaps directory to display Icons for Item type in a BOM.

NOTE: Setup warehouses to be referenced in the Labour mapping.

Labour Mapping

Warehouses - Setup - Setup

Warehouse Code: LB Warehouse Name: Labor

General Accounting

#	Account Code	Account Name
Expense Account	63900000-01-001-01	Other Administrative (HO, USA, GA)
Revenue Account	41100000-01-001-01	Sales Revenues - Domestic (HO, USA, GA)
Inventory Account	53000000-01-001-01	Applied Labor (Prod1) (HO, USA, GA)
Cost of Goods Sold Account	51100000-01-001-01	COGS - Domestic (HO, USA, GA)
Allocation Account	23400001-01-001-01	Goods Received Not Invoiced (HO, USA, GA)
Variance Account	52400000-01-001-01	Gain/Loss Price Variance (HO, USA, GA)
Price Difference Account	52600000-01-001-01	Price Variance Moving Average (HO, USA, GA)
Negative Inventory Adjustment Acct	52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA)
Inventory Offset - Decrease Account	52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA)
Inventory Offset - Increase Account	53000000-01-001-01	Applied Labor (Prod1) (HO, USA, GA)
Sales Returns Account	13500000-01-001-01	Inventory - Returns (HO, USA, GA)
Exchange Rate Difference Account	81600000-01-001-01	Rounding (HO, USA, GA)
Goods Clearing Account	13900000-01-001-01	Goods Clearing Account (HO, USA, GA)
G/L Decrease Account	52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA)
G/L Increase Account	52300000-01-001-01	Gain/Loss Inventory Variance (HO, USA, GA)
WIP Inventory Account	13200000-01-001-01	Inventory - Work In Progress (HO, USA, GA)
WIP Inventory Variance Account	52500000-01-001-01	WIP Material Variances (HO, USA, GA)
Expense Clearing Account	23600000-01-001-01	Accrued Freight & Landed Costs (HO, USA, GA)
Sales Credit Account	41100000-01-001-01	Sales Revenues - Domestic (HO, USA, GA)
Purchase Credit Account	63900000-01-001-01	Other Administrative (HO, USA, GA)

OK Cancel

Inventory account = Applied labour

Inventory Offset Increase/Decrease account = Same Applied labour or overhead account.

Reason: In Production One, when labour is issued, a Goods Receipt transaction is created to add "Resource" inventory quantity so it can be issued. Result: The inventory account is both debited and credited resulting in a zero financial transaction at the Goods Receipt. The Goods Issued transaction will decrease the inventory quantity with a debit to the WIP Inventory account and credit the Applied Labour Inventory account. See Appendix 1 for detailed journal entry.

Resource Management

Resource Management allows for the allocation of costs for Direct Labour, Outside Services, Rework, and Setup to production orders. Each resource creates an item master data record once it is entered into Business One. After the resources are created, they can be added to a BOM to enable resources to be tracked and their associated costs applied to the job. The Resource Management screen is located under **Production>Resource Management**.

NOTE: It is not possible to import the resources so it is necessary to create these resources following the resource management process.

Resource Management

Resource ID: Type: ☒ Direct Labor ☐ Outside Service

Description: Function: ☒ Operation ☐ Constraint

Unit Cost: Overhead Pct: ☒ Rework ☐ Setup

Overhead Amt: Dept ID: Alt Resource ID:

Overhead Absorption Acct:

Scheduling Calendar

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
Shift #1 Capacity:	8.000	8.000	8.000	8.000	8.000	0.000	0.000	Shift #1 Start Time: 07:00
Shift #2 Capacity:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Shift #2 Start Time:
Shift #3 Capacity:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Shift #3 Start Time:

Calendar Exceptions: ...

OK Cancel ☒ Show in Data Collect

NOTE: Before creating resources it is recommended to uncheck the

Auto Add all Warehouses to New Items field under **Administration>System Initialization>General Settings>Inventory tab**.

This is to ensure that when Business One creates a new item master record only the warehouse(s) for the selected types of operations are added to the inventory tab. So if direct labour, rework, and outside service are selected as costing types for this resource only those warehouses will be added to the item master data.

If the feature **Copy WH to Sub PO/PdO** in the P1 options is enabled, re-enable the **Auto Add all Warehouses to New Items** after resources have been added.

- **Resource ID:** This field contains the unique name of the resource and is used as the **Item Number** in the **Item Master**.

- **Descriptions:** A description for the resource which is most likely a work station or department. For example assembly happens at the assembly station or department. This description appears as the “**Description**” on the **Item Master**.

Type: Select the type(s) of resource(s), based upon the labour mapping in Production One options this will determine, which; warehouse(s) will appear on the item master. See the screen shot below.

- **NOTE:** Each resource must be designated as either direct labour or outside service but not both because the labour operation is either happening on the shop floor or with an outside vendor.
- **Unit Cost:** this is the cost per hour of this resource and is entered as the standard cost and listed on the **Inventory Tab** of the **Item Master**.
- **Overhead Pct:** The percentage of the unit cost to be applied as overhead to this resource for each hour.
- **Overhead Amt:** The fixed amount to be applied as overhead to this resource for each hour.
- **Overhead Absorption Account:** The GL account used to post overhead absorption.
 - **Note:** The list of GL accounts will include only the accounts set up in drawer 5, Cost of Goods Sold.
- **Show in Data Collect:** Check this box to enable the resource in Data Collect.
- **Dept. ID:** Can be assigned to a specific department for reporting purposes.
- **Scheduling Calendar:** Allows for the scheduling of shift capacity for up to three shifts and the start time of each shift. In this example the first shift starts at 8:00 and lasts for 8 hours.

Calendar Exceptions: Allows for holidays and scheduled down times to not be included in capacity calculations; to add holidays click the selection icon and simply add the holidays.

Note: Only operations are added to the Item Master; constraints are not. However, it is possible to designate neither, in which case the resource is not added to the Item Master. If it is designated as an operation, it will be added to the Item Master; if it is then designated as a constraint, it will not be added to the Item Master.

Example of Item Master record for Assembly resource

The screenshot shows the 'Item Master Data' window with the following fields and values:

Field	Value
Item Number	ASSEMBLY
Description	ASSEMBLY
Desc. in Foreign Lang.	
Item Type	Items
Item Group	Labor
Price List	Basic Price List
Unit Price	USD 12.00

On the right side, there are checkboxes for item types:

- ☒ Stock Item
- ☐ Sales Item
- ☐ Purchased Item
- ☐ Fixed Assets
- ☒ ECN Managed

The 'General' tab is selected, showing the following fields:

- ☒ Tax Liabile
- Production Data
 - ☐ Phantom Item
- Manufacturer: Compaq
- Additional Identifier:
- Shipping Type: Federal Express EM
- Serial and Batch Numbers
 - Manage Item by: None
- ☐ Valid
- ☐ On Hold
- Where Used... button

At the bottom, there are buttons for OK, Cancel, and Refresh.

Bill of Manufacturing

Production One adds several options to the SAP Business One **Bill of Materials**. Production One makes it possible to not only add raw materials to the BOM (from the item master data) but also operations (from the resource master data) like direct labour and outside services, which: is why in Production One the BOM is redefined as the Bill of Manufacturing.

#	S#	Type	Item No.	Item Description	UoM	WHS	Issue Method	Qty	S/U	Run	Total	OpCode	Direct	Work Instr...
3	10	M	LM4029PD	Lexmark 4029 500sheet paper drawer	ea	01	Manual	1			USD 1.00		No	
4	10	M	LM4029SB	Lexmark 4029 System Board	ea	01	Manual	1			USD 15.00		No	
5	10	A	LM4029PS	Lexmark 4029 Power Supply	ea	01	Manual	1			USD 7.00		Yes	
6	10	M	LM4029PH	Lexmark 4029 Printer Head	ea	01	Manual	1			USD 30.00		No	
7	20	O	OUTSIDE SERVICE	OUTSIDE SERVICE	DYS	OS	Manual	1		1	USD 50.00	3000	Yes	Send it outside
8	30	D	TESTING	TESTING	HRS	DL	Manual		1		USD 26.00	2000	No	Set it up for te
9	30	D	TESTING	TESTING	HRS	DL	Manual			1	USD 26.00	2000	No	1. Review spec
10	40	D	SHIPPING	SHIPPING	HRS	DL	Manual			1	USD 12.00		No	Pick it carefully
11					ea						USD 243.00		No	

Header fields:

- **Engineering Change Number (ECN) Managed:** Check this box if the finished goods are flagged as an ECN managed items on the item master data screen. This is used in the event that engineering changes to a BOM ` should be approved before being released to the shop floor.
- **ECN Rev #:** Displays the latest BOM revision number if, revisions have been made to a BOM.
- **Price List:** Select the **Standard Cost** price list and make the unit price match the item cost on the inventory tab of the item master data. This enables Production One to roll up the total standard cost for the BOM including its subassemblies.
- **Drawing File:** Attach drawings, documents or pictures for viewing on the shop floor from Data Collection One.

Columns:

- **S#:** The sequence number of the operations and links the materials to a specific manufacturing operation. Can be used if to auto issue materials when the labour operation are completed.

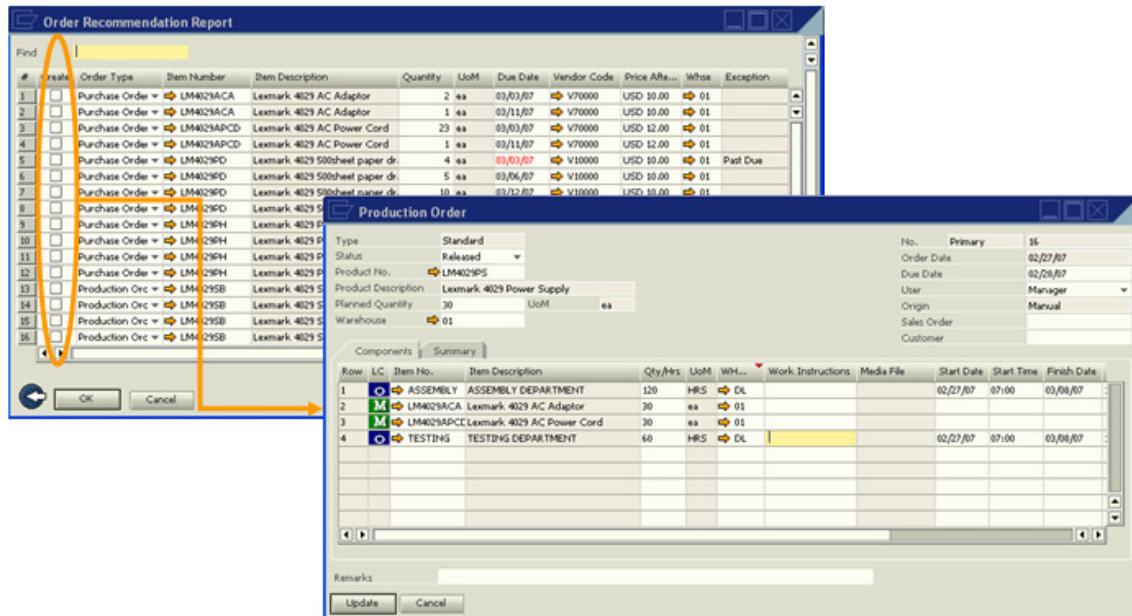
- **Type:** Displays the type of component on the BOM. M = material, A = subassembly, O = outside service, D = direct labour, P = Phantom.
 - **NOTE:** The Icons must be saved in the SAP bitmaps folder and will auto: populate on the BOM as the components are added.
- **Item No:** From the item master data for each component.
- **Item Description:** from the item master data for each component.
- **UoM:** The inventory Unit of Measure.
- **WH:** The warehouse from which material or operations (resources) are issued from.
- **Issue Method:** When using Data Collect to auto issue materials for a Production Order then the issue method must be set to manual.
- **Qty:** The material quantity needed for raw materials and outside services.
- **S/U:** Setup time required for the resource or operation.
- **Run:** This field is for the run time of a labour resource, so for example testing has a run time of one hour.
- **OpCode:** This field is used in the APS planning module where the operation code acts as a template for capacity planning for the resource's setup, run time, and wait time.
- **Direct:** Use this field to set the status of each component as "Y" or "N" meaning it can or cannot be purchased or produced direct to this Production Order.
- **Work Instructions:** Instructions can be added and printed with the production order printing on the traveller or can be viewed on the shop floor from Data Collection One.
- **Unit Price:** The per unit price listed in the Item Master.
 - **Note:** It is recommended if standard costs are used in production to then display the standard cost price list as noted above in the price list description.
- **Total:** The product of quantity and unit price for the total calculated price for each component in the BOM.

- **Media File**—Attach drawings and/or media files like pictures or video clips for viewing on the shop floor.
 - **NOTE:** Some field names have been abbreviated for demonstration purposes and not all fields are visible. All available fields are explained in *Appendix 2*.

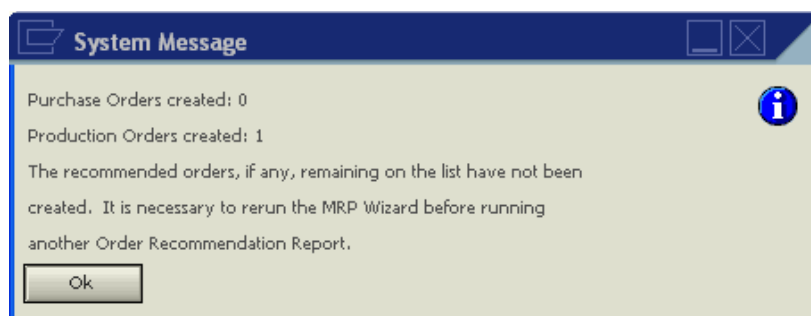
Production

Production Orders for Make to Stock

Make to stock production can be done with the **MRP Wizard** and the **Recommendation Report** or by manually creating production orders.



- From the MRP Order Recommendation Report, production orders that need to be created can be selected.
 - Note: If under Production One Options Prod Orders Released is selected, the newly created PdO's will be released.



NOTE: The above message will appear after the production or purchase orders have been created because the recommendation report is not updated by Production One. The production order materials, operations, quantity/hours, work instructions, and media files copy automatically over from the BOM.

Manually add a Production Order

Go to the Production menu and select Production Order

#	S#	Type	Item No.	Item Description	Plan	S/U	Wait Time	Run	Issued	Avail	UoM	WHE
1		ASSEMBLY	ASSEMBLY		1.5					1,603.3 HRS		DL
2		LM4029MC	Memory Chip		2					-49	ea	01
3		LM4029PD	Lexmark 4029 500s		1					89	ea	01
4		LM4029SB	Lexmark 4029 System		1					79	ea	01
5		LM4029PS	Lexmark 4029 Power		1					31	ea	01
6		LM4029PH	Lexmark 4029 Printer		1					89	ea	01
7		OUTSIDE SERVICE	OUTSIDE SERVICE		1					-28	DYS	01
8		TESTING	TESTING		2					-94	HRS	DL
9		SHIPPING	SHIPPING		1					-71	HRS	DL
10												

Enter the Product No, Planned Quantity, and the Due Date and Click Add.

Note: When the PdO has been created, all data from the Bill of Manufacturing will be copied to the Production Order. An error message will be displayed if the user attempts to modify any field prior to the PdO creation.

Production Orders for Make to Order

The sales order drives production for a Make to Order (MTO) job and includes an Estimated Time to Deliver (ETD), which; can be used to create a production order directly from the Sales Order.

Note: The ETD is calculated by a formula that considers the BOM and all its operations, the materials required and the stock on hand. Materials not on the appropriate lead time will be determined. All these factors are processed to calculate the earliest estimated delivery date. Note the formula does not consider manufacturing capacity.

To create the Production Order from the Sales Order

Sales Order

Customer: C40000
 Name: Earthshaker Corporation
 Contact Person: Daniel Brown
 Customer Ref. No.:
 BP Currency: USD
 Order Type:

No. Primary 31
 Status Open
 Posting Date 04/07/08
 Delivery Date 04/17/08
 Document Date 04/07/08
 Service Call:

Contents | Logistics | Accounting | Contract

#	Item No.	Quantity	Unit Price	Discount %	Tax Code	Total (LC)	Employee ID	ECN...
1	LM4029	1	USD 500.00	0.000	CA	USD 500.00		
2				0.000				

Sales Employee: -No Sales Employee-
 Owner:

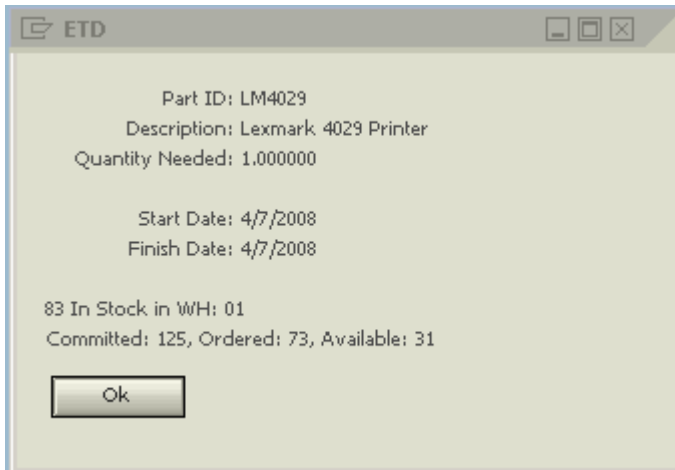
Remarks:

Total Before Discount: USD 500.00
 Discount: %
 Freight: USD 5.00
 Rounding: USD 0.00
 Tax: USD 51.00
 Total: USD 556.00

PdO Series: Primary
 MTO
 Edit XL
 ETD

Add Cancel Copy From Copy To

- After the sales order has been added into Business One highlight a line item in the main window and click MTO **Make to Order** to create the production order.
- The production order now appears in released status and is ready for the shop floor.
- Notice the Sales order is linked to the production order as well as the customer C40000.
- **ETD:** Production One automatically estimates the delivery time according to the production schedule'



PdO Series:

- This is a new feature of Production One wherein it now supports using different numbering series on documents it creates. PdO series can be created and selected to differentiate different production series.
- After all the components have been issued for the production order and the order is closed the finished goods will be received into inventory and the sales order can be delivered.



Note: In this example the material components **issue method** is set to **back flush** or **auto flush** while resources are set to **manual**. This allows the shop floor to manually enter actual amounts for direct labour and other resources. Then when the reporting is completed or the receipt from production is entered the materials will back flush or auto flush. The materials issue method can also be set to manual which would require the actual materials used to be entered into Business One by using the **Issue for Production** window. Materials can also be Auto issued from Data Collect. If Data Collect is used, the Issue Method must be MANUAL on the BOM.

Production Order Status

Production Order

Type: Standard
 Status: Released
 Product No.: LM4029
 ECN Rev #:
 Product Description: Lexmark 4029 Printer
 Planned Quantity: 1
 UoM: ea
 Warehouse: 01

No.: 37
 Primary:
 Order Date: 06/26/07
 Due Date: 07/06/07
 User: manager
 Origin: Manual
 Sales Order: 24
 Customer: C40000

Components | Summary

R#	S#	Type	Item No.	Item Description	Qty	S/U	Run	Plan	Issued	Avail	UoM	WHS	OpCode	Direct	Status
1	10	D	ASSEMBLY	ASSEMBLY			1	1		-637.004	HRS	DL	1000	No	Not Started
2	10	M	LM4029MC	Memory Chip	2		2			864	ea	01		No	Not Started
3	10	M	LM4029PD	Lexmark 4029 500sheet paper drawer	1		1			923	ea	01		No	Not Started
4	10	M	LM4029SB	Lexmark 4029 System Board	1		1			923	ea	01		No	Not Started
5	10	A	LM4029PS	Lexmark 4029 Power Supply	1		1			-62	ea	01		Yes	Not Started
7	20	O	OUTSIDE SERVICE	OUTSIDE SERVICE	1		1	2		-75	DYS	OS	3000	Yes	Not Started
6	10	M	LM4029PH	Lexmark 4029 Printer Head	1		1			913	ea	01		No	Not Started
8	30	D	TESTING	TESTING		1	1			-679	HRS	DL	2000	No	Not Started
10	40	D	SHIPPING	SHIPPING			1	1		-78	HRS	DL		No	Not Started
9	30	D	TESTING	TESTING			1	1		-679	HRS	DL	2000	No	Not Started

Remarks: Lexmark 4029 Printer

OK Cancel

- **Start Date, Finish Date**—Data Collection or Labour Ticket Entry completes the actual start/finish dates.
- **Status**—the labour status can be changed anytime in this field. There are four options for the status for each component or step in the production order: not started, in process, cancelled, or finished. When the completed quantity is reported for operations the labour status changes to Finished automatically.
- Once all components have been issued follow the standard Business One functionality to receive the finished goods into inventory and close the order.
- The **Auto Receive** functionality in Data Collection One can also be utilized to receive the finished good into inventory.

Purchase & Produce Direct to Production Orders

In Production One it is possible to create Purchase Orders and/or Sub Assembly production orders from a released **Production Order**.

* See Set up section for additional explanation.

To create a purchase order from a job (Production Order)

#	S#	Type	Item No.	Item Description	Plan	S/U	Wait Time	Run	Issued	Avail	UoM	WHS	Issue Met...	Status	Direct
1	10	D	ASSEMBLY	ASSEMBLY	1.5	0.25	0.25	1		1,597.35	HRS	DL	Manual	Not Started	No
2	10	M	LM4029MC	Memory Chip	2					-53	ea	01	Manual	Not Started	No
3	10	M	LM4029PD	Lexmark 4029 500sh	1					87	ea	01	Manual	Not Started	No
4	10	A	LM4029PS	Lexmark 4029 Powe	1					31	ea	01	Manual	Not Started	Yes
5	10	M	LM4029SB	Cut						77	ea	01	Manual	Not Started	No
6	40	D	TESTING	Copy				2		-98	HRS	DL	Manual	Not Started	No
7	50	D	SHIPPING	Paste				1		-73	HRS	DL	Manual	Not Started	No
8	20	O	OUTSIDE SE	Delete						-28	DYS	OS	Manual	Not Started	Yes
9	10	M	LM4029PH							87	ea	01	Manual	Not Started	No

- Set the direct flag to **Y** and the Issue Method to Manual on the BOM for the items that will be purchased or assembled direct to the job.
- Create and release the production order.
- Then right click the row of the line item to create purchase orders or subassembly production orders directly to this production order.
- Then select the appropriate option to **Create Sub: PdO**, **Purchase to PdO**, or **Create All Direct Items**.

The documents resulting from the direct transaction(s) will be referenced and issued direct to the production order.

- Notice the PO that the NBS Prod Order ID field references production order 70.

Purchase Order - Blanket

Vendor	W70000	No.	Primary	44	- 0
Name	SMD Technologies	Status	Open		
Contact Person		Posting Date	04/07/08		
Vendor Ref. No.		Delivery Date	04/17/08		
Local Currency		Document Date	04/07/08		

Contents Logistics Accounting

Item/Service Type		Item	Summary Type	No Summary
#	Item No.	Item Desc...	NBS Prod Or...	Quantity Unit Price Disc... T
1	LM4029PS	Lexmark 4029PS	70	USD 9.00 0.000
2				0.000

Buyer: -No Sales Employee- Owner:

Remarks:

Total Before Discount	USD 9.00
Discount	%
Freight	
<input type="checkbox"/> Rounding	
Tax	
Total Payment Due	USD 9.00

OK Cancel Copy From Copy To

- Once the Goods Receipt has been processed the materials will automatically be issued to production order 70.

Goods Receipt PO

Vendor	→ V70000	No.	Primary	14
Name	SMD Technologies	Status	Open	
Contact Person		Posting Date	04/07/08	
Vendor Ref. No.		Due Date	04/07/08	
Local Currency		Document Date	04/07/08	

Contents Logistics Accounting

#	Item No.	Quantity	Unit Price	Summary Type	No Summary	Tax Code	Total (LC)
1	→ LM4029PS	1	USD 9.00	NBS Prod Or...	70	0.000	USD 9.00
2						0.000	

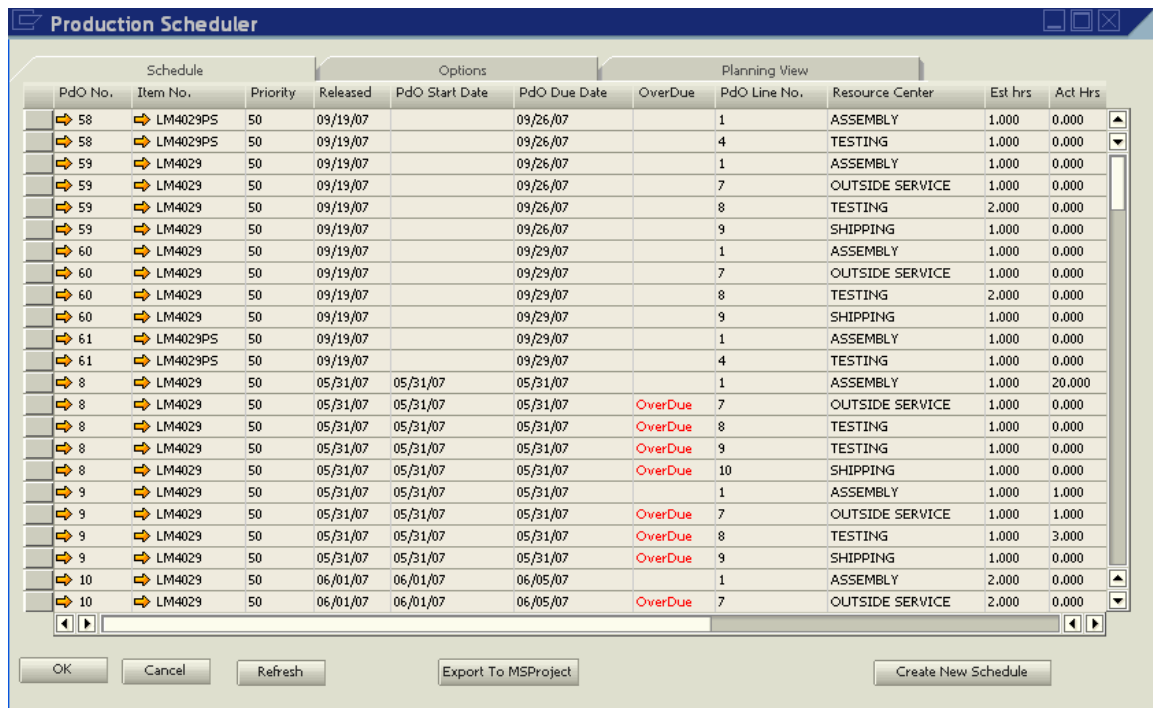
Buyer	-No Sales Employee-	Total Before Discount	USD 9.00
Owner		Discount	%
		Freight	→
		<input type="checkbox"/> Rounding	
Remarks	Based On Purchase Orders 44.		
		Tax	
		Total Payment Due	USD 9.00

Add Cancel Copy From Copy To

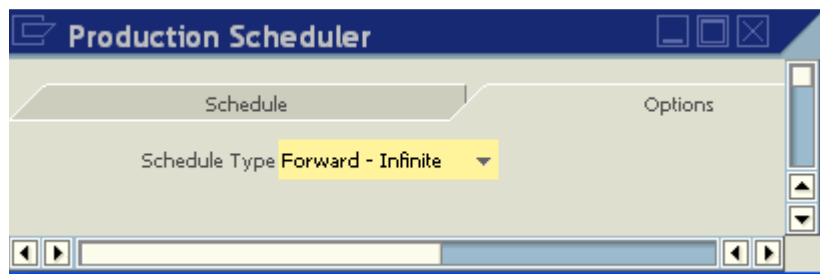
Scheduling and Reporting

Production Scheduler

The production scheduler shows all open released production orders along with the expected start and finish dates. The schedule can be viewed in report format and edited before publishing it to the shop floor. Currently the only schedule type available is **Forward – Infinite**. Meaning the schedule plans forward for the total hours a job requires. Infinite means the scheduler is loading infinite jobs into the schedule regardless of actual production capacity. If capacity planning is required, then contact Navigator to acquire the advanced planning module that will consider multiple constraints and provide full capacity planning.



Schedule			Options			Planning View				
PdO No.	Item No.	Priority	Released	PdO Start Date	PdO Due Date	OverDue	PdO Line No.	Resource Center	Est hrs	Act Hrs
58	LM4029PS	50	09/19/07		09/26/07		1	ASSEMBLY	1.000	0.000
58	LM4029PS	50	09/19/07		09/26/07		4	TESTING	1.000	0.000
59	LM4029	50	09/19/07		09/26/07		1	ASSEMBLY	1.000	0.000
59	LM4029	50	09/19/07		09/26/07		7	OUTSIDE SERVICE	1.000	0.000
59	LM4029	50	09/19/07		09/26/07		8	TESTING	2.000	0.000
59	LM4029	50	09/19/07		09/26/07		9	SHIPPING	1.000	0.000
60	LM4029	50	09/19/07		09/29/07		1	ASSEMBLY	1.000	0.000
60	LM4029	50	09/19/07		09/29/07		7	OUTSIDE SERVICE	1.000	0.000
60	LM4029	50	09/19/07		09/29/07		8	TESTING	2.000	0.000
60	LM4029	50	09/19/07		09/29/07		9	SHIPPING	1.000	0.000
61	LM4029PS	50	09/19/07		09/29/07		1	ASSEMBLY	1.000	0.000
61	LM4029PS	50	09/19/07		09/29/07		4	TESTING	1.000	0.000
8	LM4029	50	05/31/07	05/31/07	05/31/07		1	ASSEMBLY	1.000	20.000
8	LM4029	50	05/31/07	05/31/07	05/31/07	OverDue	7	OUTSIDE SERVICE	1.000	0.000
8	LM4029	50	05/31/07	05/31/07	05/31/07	OverDue	8	TESTING	1.000	0.000
8	LM4029	50	05/31/07	05/31/07	05/31/07	OverDue	9	TESTING	1.000	0.000
8	LM4029	50	05/31/07	05/31/07	05/31/07	OverDue	10	SHIPPING	1.000	0.000
9	LM4029	50	05/31/07	05/31/07	05/31/07		1	ASSEMBLY	1.000	1.000
9	LM4029	50	05/31/07	05/31/07	05/31/07	OverDue	7	OUTSIDE SERVICE	1.000	1.000
9	LM4029	50	05/31/07	05/31/07	05/31/07	OverDue	8	TESTING	1.000	3.000
9	LM4029	50	05/31/07	05/31/07	05/31/07	OverDue	9	SHIPPING	1.000	0.000
10	LM4029	50	06/01/07	06/01/07	06/05/07		1	ASSEMBLY	2.000	0.000
10	LM4029	50	06/01/07	06/01/07	06/05/07	OverDue	7	OUTSIDE SERVICE	2.000	0.000



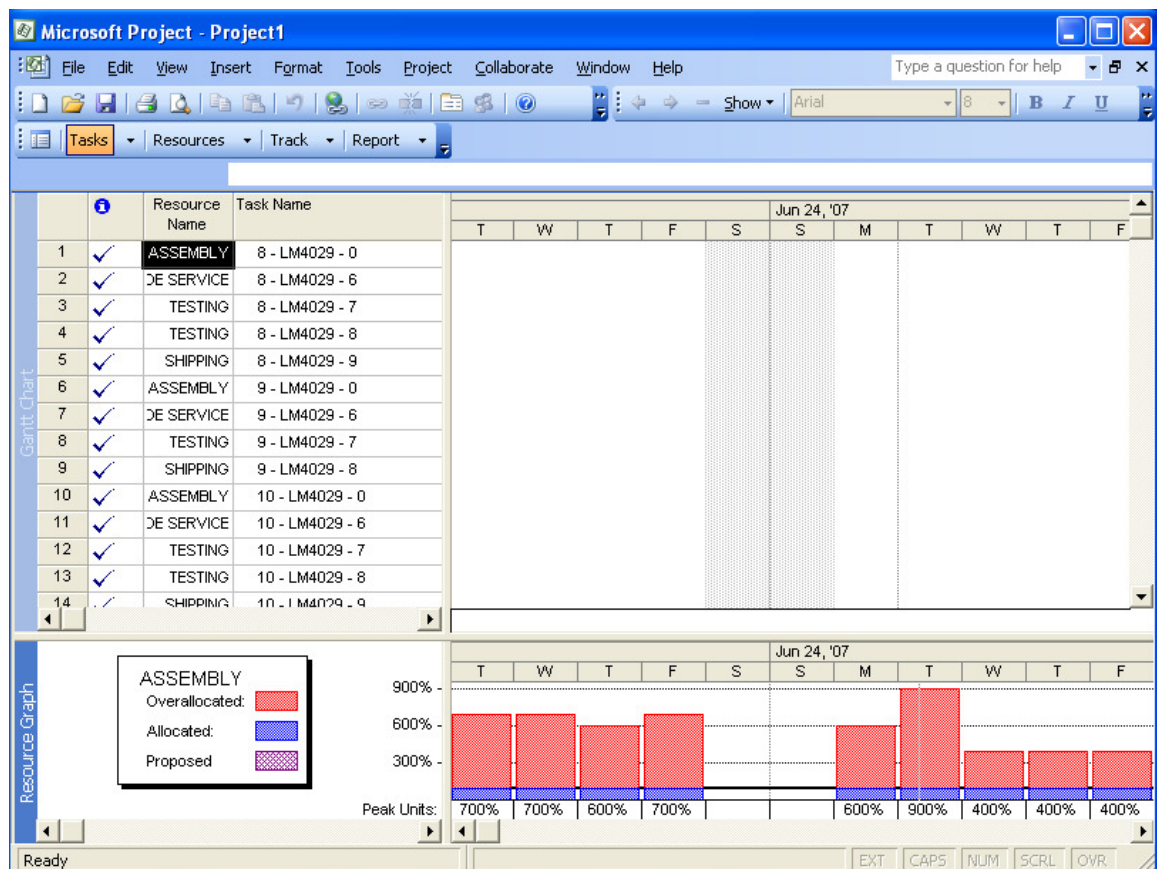
The production scheduler is located in **Production>Production Scheduler**

- **Production Order:** The production order number used to drill down into the released production order.
- **Priority**—the priority assigned to the production order pulled from the priority user defined field on the production order under the general category.
- **PdO Start Date**—the date the production order is released to production.
- **PdO Due Date**—the due date copied from the production order.
- **OverDue:** signal for production orders that are late or have passed their due date.
- **PdO Line No.**—the line number of the operation from the production order.
- **Resource Centre**—the department or location where the direct labour resource operation is performed
- **Est. Hours**—this is pulled from the planned hours on the production order based upon the quantity being produced.
- **Act. Hours**—the actual hours the labour operation required as reported from Data Collection One
- **Est. Qty**—the planned quantity from the production orders.
- **Act. Qty**—the actual quantity issued for that operation as reported from Data Collection One.
- **Start Date**—it is assumed that work will begin on the released production order the date it is released to the shop floor.
- **Start Time**—it is assumed the start time for the operation will begin at the beginning of the shift.
- **Finish Date**—this is the actual finish date for the operation as reported in Data Collection One.
- **Finish Time**—the actual time the production is completed as reported in Data Collection One.
- **Status**—whether the operation is Complete or In Process.

- Row details or production order priorities can be updated by drilling down into the production order and making the desired changes. To update the priority for a specific job drill down into the production order and make visible the users defined fields and update the priority field. Then run click **Create New Schedule** to add the updated information to the schedule before it is printed and or sent to the shop floor.
- **Export to MSProject**—see the explanation below.

Export to MS Project

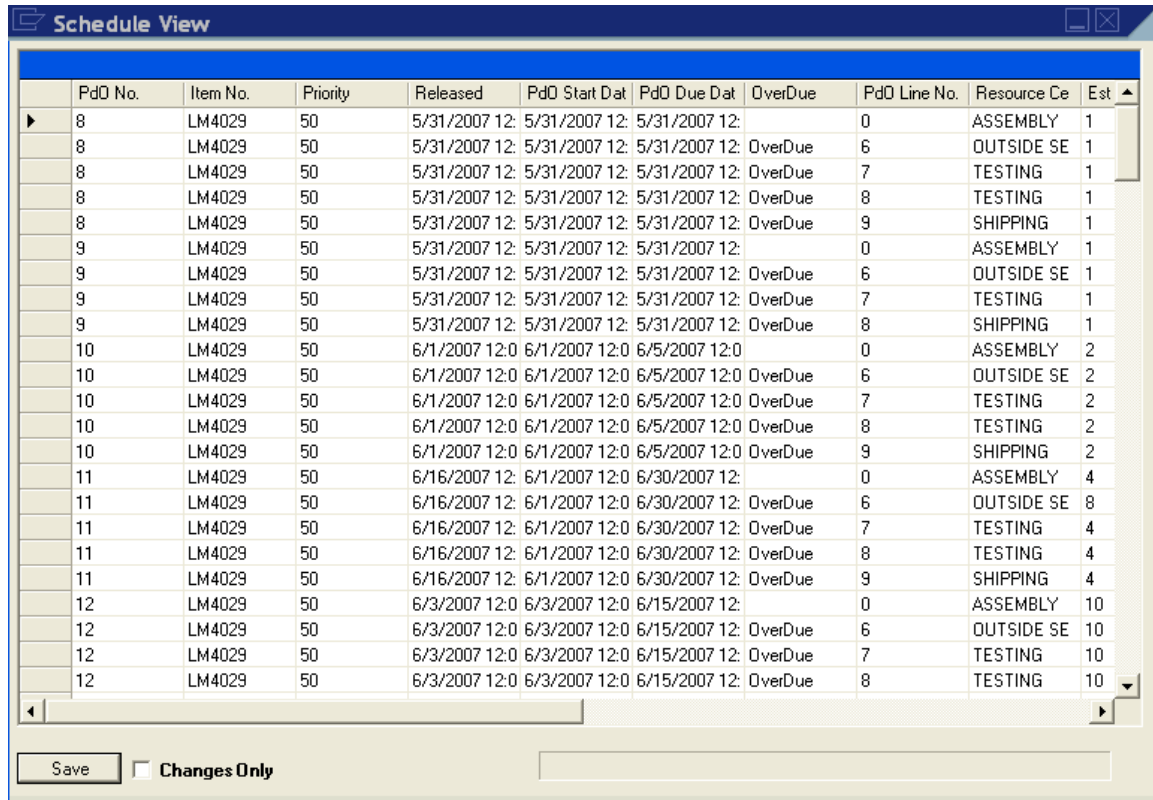
Optionally, the production schedule can be exported to MS Project for further reporting and analysis. MS Project functionality is available including Gantt charts, as well as capacity histograms. Ensure MS Project is installed and click the **Export to MSProject** button from the production schedule once the schedule is up to date.



Create New Schedule: See the explanation below:

Create a New Schedule

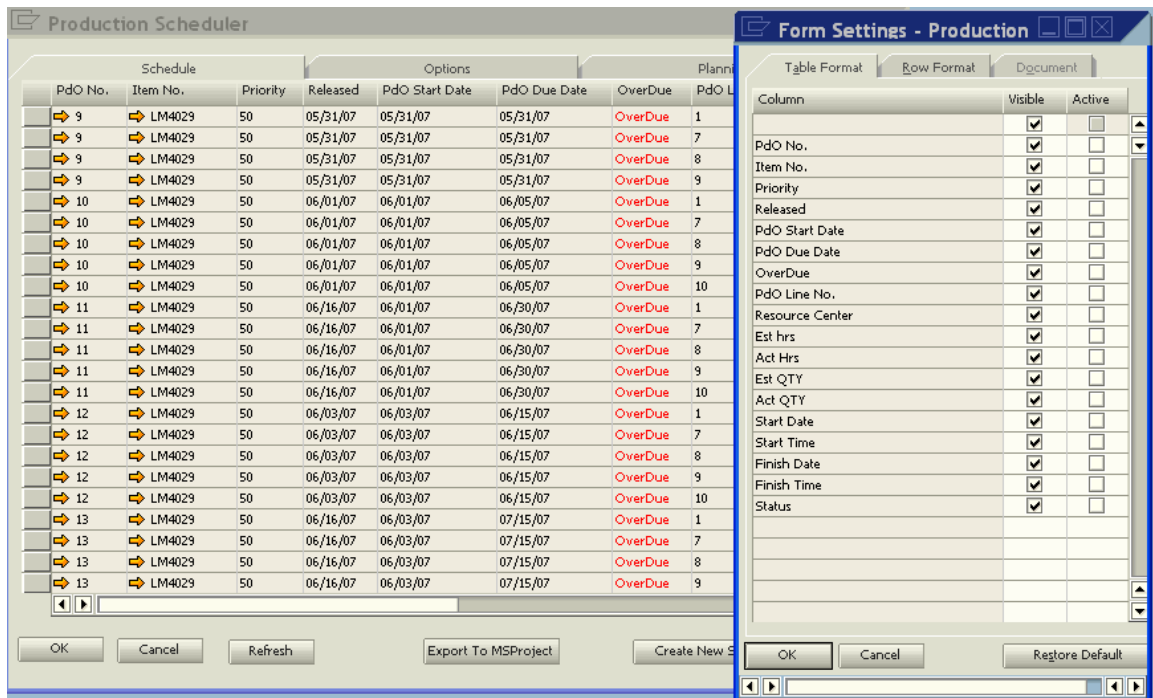
Optionally a new Schedule can create for the required Production orders.



The screenshot shows a window titled "Schedule View" with a table of production orders. The table has columns for PdO No., Item No., Priority, Released, PdO Start Dat, PdO Due Dat, OverDue, PdO Line No., Resource Ce, and Est. The data is organized into rows, with some rows having a right-click context menu open. The table is scrollable, and there are "Save" and "Changes Only" buttons at the bottom.

PdO No.	Item No.	Priority	Released	PdO Start Dat	PdO Due Dat	OverDue	PdO Line No.	Resource Ce	Est
8	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:		0	ASSEMBLY	1
8	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:	OverDue	6	OUTSIDE SE	1
8	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:	OverDue	7	TESTING	1
8	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:	OverDue	8	TESTING	1
8	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:	OverDue	9	SHIPPING	1
9	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:		0	ASSEMBLY	1
9	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:	OverDue	6	OUTSIDE SE	1
9	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:	OverDue	7	TESTING	1
9	LM4029	50	5/31/2007 12:	5/31/2007 12:	5/31/2007 12:	OverDue	8	SHIPPING	1
10	LM4029	50	6/1/2007 12:0	6/1/2007 12:0	6/5/2007 12:0		0	ASSEMBLY	2
10	LM4029	50	6/1/2007 12:0	6/1/2007 12:0	6/5/2007 12:0	OverDue	6	OUTSIDE SE	2
10	LM4029	50	6/1/2007 12:0	6/1/2007 12:0	6/5/2007 12:0	OverDue	7	TESTING	2
10	LM4029	50	6/1/2007 12:0	6/1/2007 12:0	6/5/2007 12:0	OverDue	8	TESTING	2
10	LM4029	50	6/1/2007 12:0	6/1/2007 12:0	6/5/2007 12:0	OverDue	9	SHIPPING	2
11	LM4029	50	6/16/2007 12:	6/1/2007 12:0	6/30/2007 12:		0	ASSEMBLY	4
11	LM4029	50	6/16/2007 12:	6/1/2007 12:0	6/30/2007 12:	OverDue	6	OUTSIDE SE	8
11	LM4029	50	6/16/2007 12:	6/1/2007 12:0	6/30/2007 12:	OverDue	7	TESTING	4
11	LM4029	50	6/16/2007 12:	6/1/2007 12:0	6/30/2007 12:	OverDue	8	TESTING	4
11	LM4029	50	6/16/2007 12:	6/1/2007 12:0	6/30/2007 12:	OverDue	9	SHIPPING	4
12	LM4029	50	6/3/2007 12:0	6/3/2007 12:0	6/15/2007 12:		0	ASSEMBLY	10
12	LM4029	50	6/3/2007 12:0	6/3/2007 12:0	6/15/2007 12:	OverDue	6	OUTSIDE SE	10
12	LM4029	50	6/3/2007 12:0	6/3/2007 12:0	6/15/2007 12:	OverDue	7	TESTING	10
12	LM4029	50	6/3/2007 12:0	6/3/2007 12:0	6/15/2007 12:	OverDue	8	TESTING	10





Note: The form settings option under the production schedule allows a user to select the required column fields in the schedule view



Production Order Traveller

The production order traveller can be printed using the report manager in Data Collect One which will be covered in more detail under the Data Collect section. This is a Crystal Report pulling data from the production order and can be customized for the shop floor. Optionally a new Schedule can be created for the required Production orders.

Production Order Traveler

Prod Order: 16		LM4029 -- Lexmark 4029 Printer	Due Date: 03/09/2007
Item/Work Center	Qty		
Labor:			
OUTSIDE	1.00		
			
TESTING	1.00		
			
ASSEMBLY	1.00		
			
SHIPPING	1.00		
			
Materials:			
LM4029MC	2.00		
LM4029PD	1.00		
LM4029PH	1.00		
LM4029PS	1.00		
LM4029SB	1.00		

Production Order

Type

Standard

Status

Released

Product No.

LM4029

Product Description

Lexmark 4029 Printer

Planned Quantity

1

UoM

ea

Warehouse

01

No.

Primary

16

Order Date

03/05/07

Due Date

03/09/07

User

Manager

Origin

Manual

Sales Order

Customer

Components

Summary

#	CT	Item No.	Item Description	Base Qty	Planned Qty	Issued	Available	U
1	M	LM4029MC	Memory Chip	2	2		137	ea
2	M	LM4029PD	Lexmark 4029 500sheet paper drawer	1	1		203	ea
3	M	LM4029PH	Lexmark 4029 Printer Head	1	1		193	ea
4	M	LM4029PS	Lexmark 4029 Power Supply	1	1		203	ea
5	M	LM4029SB	Lexmark 4029 System Board	1	1		204	ea
6	S	OUTSIDE	OUTSIDE SERVICES	1	1		992	DY
7	O	TESTING	TESTING DEPARTMENT	1	1		992	HR
8	O	ASSEMBLY	ASSEMBLY DEPARTMENT	1	1		992	HR
9	O	SHIPPING	SHIPPING DEPARTMENT	1	1		992	HR

Remarks

OK

Cancel

ECN's & Revision Control

An item can be flagged as being under revision control with effective dates. This becomes important when production orders or Boom's need to be adjusted, but approval must be received before the change is made active. ECN Management allows for engineering review of changes to individual members of a BOM. A revision history is created for each approved change to a BOM.

Item Master Data ECN Managed Flag

The screenshot shows the 'Item Master Data' window for item LM4029PS, 'Lexmark 4029 Power Supply'. The 'ECN Managed' checkbox is checked. Other fields include 'Item Type' (Items), 'Item Group' (Accessories), 'Price List' (Basic Price List), and 'Unit Price' (USD 9.00). The 'General' tab is active, showing 'Tax Liable' checked, 'Production Data' section with 'Phantom Item' unchecked, 'Manufacturer' (Compaq), 'Shipping Type' (Federal Express EM), 'Issue Method' (Backflush), 'Serial and Batch Numbers' section with 'Manage Item by' (None), and 'Valid' and 'On Hold' checkboxes. A 'Where Used...' button is also present.

- To mark an item as ECN managed check the **ECN Managed** box on the item master data screen, then the item will appear on the ECN List located at **Production>ECN Management**.

ECN Management

- An item under revision control maintains a record of any changes (additions, updates, or deletions) until approved.

- Previous revisions are stored, and can be reviewed, or used to create a new production order.

Bill of Manufacturing

Product No. Quantity Warehouse

Product Description ☒ ECN Managed ECN Rev #:

BOM Type Price List

Drawing File

#	S#	T...	Item No.	Item Description	Material Qty	S/U	Run	Wait Time	U...	WHS	Issue Met...	Unit Price	Total	C
1	10	D	ASSEMBLY	ASSEMBLY		0.5	0.5		HRS	DL	Manual	USD 2.00	USD 2.00	
2	10	M	LM4029ACA	Lexmark 4029 AC Adaptor	1				ea	01	Backflush	USD 3.00	USD 3.00	
3	10	M	LM4029APCD	Lexmark 4029 AC Power Cord	1				ea	01	Backflush	USD 4.00	USD 4.00	
4	20	D	TESTING	TESTING		0.5	1		HRS	DL	Manual	USD 6.00	USD 9.00	
5									ea					
													USD 18.00	
													Product Price	USD 25.00

Update Cancel ECNs Refresh

- The above example is an item under revision control. A change has been made to the BOM and will be updated to implement the change.
- Click the Update button and the ECN Management screen will be displayed.

ECN Management

ECN ID: Item: Tree Type: Warehouse ☐ Direct

Cust ID: Prod Order: Status: Reason:

Create Date: Approval Date: Begin Effectivity: End Effectivity:

Remarks: New Rev: Old Rev:

Price List: Quantity:

Drawing File

#	Type	Item	Wareho...	Scrap Qty	Scrap Pct	Run Time	Wait Time	Matl Qty	DL Cost	OH Cost	Qty	U...
	DIRECT	ASSEMBLY	DL	0.000	0.000	0.500	0.000	0.000	0.00	0.00	1.000	HRS
	MATER	LM4029ACA	01	0.000	0.000	0.000	0.000	1.000	0.00	0.00	1.000	ea
	MATER	LM4029APCD	01	0.000	0.000	0.000	0.000	1.000	0.00	0.00	1.000	ea
	DIRECT	TESTING	DL	0.000	0.000	1.000	0.000	0.000	0.00	0.00	1.500	HRS

Add Cancel Apply To:

- Enter the Begin and End Effective dates, New Rev. Number (Alphanumeric) and enter any comments.

- Click Add to add the new revision.

Below is the updated BOM with new revision.

Bill of Manufacturing

Product No. **LM4029P5** Quantity **1** Warehouse **01**

Product Description **Lexmark 4029 Power Supply** ☒ ECN Managed ECN Rev #: **1**

BOM Type **Production** Price List **Standard Cost**

Drawing File

#	S#	T...	Item No.	Item Description	Material Qty	S/U	Run	Wait Time	U...	WHS	Issue Met...	Unit Price	Total	Comr
1	10	D	ASSEMBLY	ASSEMBLY		0.5	0.5		HRS		DL Manual	USD 2.00	USD 2.00	
2	10	M	LM4029ACA	Lexmark 4029 AC Adaptor	1				ea		01 Backflush	USD 3.00	USD 3.00	
3	10	M	LM4029APCD	Lexmark 4029 AC Power Cord	1				ea		01 Backflush	USD 4.00	USD 4.00	
4	20	D	TESTING	TESTING		0.5	1		HRS		DL Manual	USD 6.00	USD 9.00	
5									ea					
													USD 18.00	

Product Price **USD 18.00**

Buttons: Update, Cancel, ECNs, Refresh

- Click the ECN button to display all revisions for this BOM.

ECN List

BOM Item **LM4029P5**

Description: **Lexmark 4029 Power Supply**

ECNs:

ECN ID	Status	ECN Rev	Approval Date
1	C	B	
2	O	C	
3	O	D	
4	O	E	
5	O	F	
6	O	G	
7	O	H	

Buttons: Open, Close

- Select a row and click open to display the selected revision.

ECN List

[illegible]

- Use the ECN Management menu to view all revisions for all items.
- Select a row and click Open to view the ECN revision details.

When selected the Where Used button on the item master, displays the Bills of Materials and Production Orders where the item is used.

42 of 63

Production One APS:

This is a new feature of Production One which allocates the resource requirements for a particular operation. In order to use this option, select the Advance Scheduling option on the Production One options screen.

Go to, **Production>Production One APS**. Two options are available. Production One APS and Resource Capability.

Click on the Resource Capability option. Following screen pops up.


Code	Name	Description
1	Welding1	Welding Operation
2	Fitting	Fitting Operation
3	Welding 2	Arc Welding
4	Drilling	Drilling Operation
5	Sewing	Sewing Operation
6	Packing	Packing Operation

In this screen, resources can be added to accommodate new or changing processes. In the add mode. Type in the Code, name and description, which; will add the resources. Double click on a line item and edit resources.

Next is the Resource Management form. Select the Constraint option and add an Employee.

Make sure that the Overhead Absorption account is selected. (Select Applied Labour)

Resource Management

Resource ID:  EMP104
 Description: Bill Levine

Unit Cost: 20.00 Overhead Pct: 10.000
 Overhead Amt: 20.00
 Overhead Absorption Acct: 53000000-01-001-01

Type: ☒ Direct Labor ☐ Outside Service


Function: ☐ Operation ☒ Constraint

☐ Rework ☐ Setup

Dept ID: Production Alt Resource ID:

Scheduling Calendar

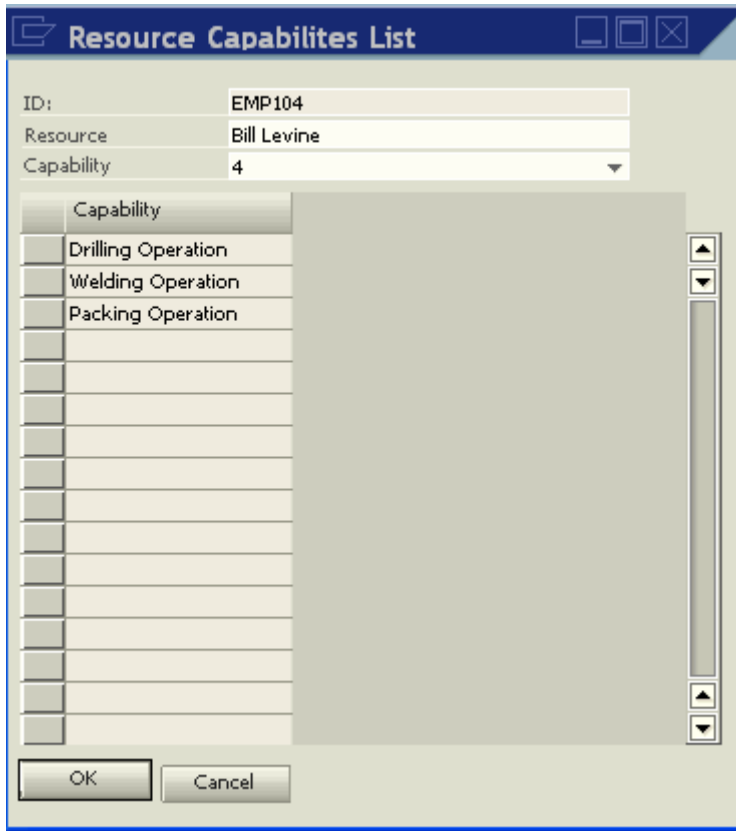
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
Shift #1 Capacity:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Shift #1 Start Time:
Shift #2 Capacity:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Shift #2 Start Time:
Shift #3 Capacity:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Shift #3 Start Time:

Calendar Exceptions: 

OK Cancel Capabilities ☐ Show in Data Collect

When the resource is a Constraint, the Capabilities option is available.

Clicking on the Capabilities button, Brings up the Resource capabilities form, as shown below.



The image shows a software dialog box titled "Resource Capabilities List". At the top, there are three standard window control buttons (minimize, maximize, close). Below the title bar, there are three input fields: "ID:" with the value "EMP104", "Resource" with the value "Bill Levine", and "Capability" with the value "4" and a dropdown arrow. The main area of the dialog is a table with a header row labeled "Capability". The table contains several rows, with the first three rows populated with "Drilling Operation", "Welding Operation", and "Packing Operation". The remaining rows are empty. To the right of the table is a vertical scrollbar. At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

Capability
Drilling Operation
Welding Operation
Packing Operation

Now the various capabilities for that Employee may be defined.

Bill of Manufacturing:

When the Advance Scheduling Option is enabled in the Production One options screen. Double clicking on a resource, for example Assembly, the causes the following screen to appear.

Resource Requirements - BOM

Requirements Document: LM4029

Operation: ASSEMBLY Requirement Suffix: 1 Requirement Operation Number: 23

Required Capability: Welding 2 Required Default Resource: None Comment: Required for Assembly Operation

Primary Requirement: Yes Used During: Setup Only Attention Percentage: 20.000

Operation	Suffix	Reqd Op #	Comment	Reqd Capability	Default Resource	PrimaryReq	Used During	Attn Pct	Scheduled Resource
ASSEMBLY	1	23	Required for Assembly Operation	Welding 2	None	Y	Setup Only	20.000	
ASSEMBLY	1	24	Assembly Operation requirement	Welding1	None	Y	Setup Only	30.000	

OK Cancel

The requirements button on the BOM form, displays the resource requirements for all the resources as shown below:

Resource Requirements - BOM

Requirements Document: LM4029

Operation: ASSEMBLY Requirement Suffix: 1 Requirement Operation Number: 23

Required Capability: Welding 2 Required Default Resource: None Comment: Required for Assembly Operation

Primary Requirement: Yes Used During: Setup Only Attention Percentage: 20.000

Operation	Suffix	Reqd Op #	Comment	Reqd Capability	Default Resource	PrimaryReq	Used During	Attn Pct	Scheduled Resource
ASSEMBLY	1	23	Required for Assembly Operation	Welding 2	None	Y	Setup Only	20.000	
OUTSIDE SERVICE	1	25	Pack Carefully	Packing	Bill Levine	Y	Setup, Run, and Post-Processing	50.000	
OUTSIDE SERVICE	1	26	Sew if it is Clothing	Sewing	Brad Thompson	N	Setup and Run	50.000	

OK Cancel

- **Requirement Operation Number:** Give this a unique number.
- **Requirement Document:** Displays the item whose BOM is selected.
- **Operation:** Displays the particular operation.
- **Resource Capability:** Select from a list of capabilities that were defined in the resource capability table.

- **Primary requirement:** Set this to Yes or NO.
- **Required Default Resource:** Set this accordingly.
- **Used during:** Select Setup only, Setup and run, Setup, Run and Post Processing as needed.
- **Attention Percentage:** Can be given a value as required.
- **Comments:** required comments can be given on this field.

Requirement Suffix: This is defined in the resource capabilities table. It can have values starting from 1 so if an Assembly has a resource suffix of 5, there can be Assembly1, Assembly2 ... Assembly5. For each Resource separate capabilities can be defined.

Production Order: When a stand alone production order is created, the requirements for that item will be passed from the BOM to the production order.

XL Estimator

XL Estimator adds the ability to create and link an Excel Spreadsheet estimate of labor & materials to Sales Quotations.

Template Setup

- After the Excel template has been defined create an item master in Business One for the XL Template, for example **XL: Printer**, as shown in the screen shot below.

The screenshot shows the 'Item Master Data' dialog box in SAP. The 'General' tab is active. The 'Item Number' is 'XL-Printer' and the 'Description' is 'Estimate for Printer'. The 'Unit Price' is 'USD 105.00'. The 'XL Estimated' checkbox is checked. The 'XL File Path' is 'C:\Program Files\SAP\SAP'. The 'Alt Resource ID' is 'Yes'. The 'Weekly Capacity' is '0.000'. The 'Overhead Percent' is '0.000'. The 'Overhead Amount' is '0.00'. The 'ECN Managed' checkbox is checked. The 'Configured Item No.' is empty. The 'Matrix Attr 1' through 'Matrix Attr 3' are empty. The 'Matrix Bar Code' is empty. The 'Matrix Parent Style' is empty. The 'Matrix Prefix Code' is empty. The 'Matrix Style Master' is empty. The 'Job Costing Clearing Account' is empty. The 'Web Time Entry Non-Billable' checkbox is checked. The 'Default Analysis 1' and 'Default Analysis 2' are empty. The 'OK' and 'Cancel' buttons are at the bottom.

- Then make visible the item master data user defined fields and map the **XL file path** UDF to the XL template that is saved in the SAP Business One attachments folder.

- Designate the item as **Yes** in the **XL Estimated** user defined field and now the XL template can be used to generate sales quotations in Business One.

Sales Quotes

- Create the sales quotation and enter the item that was created for the XL Estimator (XL: Printer).

Sales Quotation

Customer	C20000	No.	Primary	46
Name	Norm Thompson	Status	Open	
Contact Person	Norm Thompson	Posting Date	14/11/07	
Customer Ref. No.		Valid Until	14/12/07	
BP Currency	USD	Document Date	14/11/07	

Contents

Logistics

Accounting

Item/Service Type		Item	Summary Type					No Summary
#	Item No.	Item Description	Quantity	Unit Price	Discount %	Rate	Price after Discount	
1	XL-Print	estimate for Printer	1	USD 105.00	0.000		USD 105.00	
2					0.000	0.0000		

Sales Employee	Brad Thompson	Total Before Discount	USD 105.00
Owner	Thompson, Brad	Discount	%
Remarks		Freight	USD 5.00
		Rounding	USD 0.00
		Tax	USD 9.98
		Total	USD 119.98

- Then the XL template will appear and allow for updates or changes as shown below.

Quote Header

Number	44
BP Code	C20000
BP Name	Norm Thompson
State	
Shipping Type	

Line Items

#	Type	Item No.	Item Description	Qty	Disc%	Price	Total (LC)	Type
1	0	LM4029	Lexmark 4029 Printer - Custom	3	0.1	1827.36	4933.872	P
2	0	S9479	Installation	1	0	200	200	L
3	0	Mileage	Mileage Expenses	65	0	0.35	22.75	L

- The business partner Quote/Order **Title** information is passed into the Excel template from Business One.
- Line Items are linked to user defined Excel worksheets for calculation of item number, item description, quantity, discount percentage, price, total, etc.
- The Excel template has worksheets that are controlled by Excel Estimator for the quote. The cells in these worksheets can be linked to user defined worksheets.
- Once the sales quote template is complete click the **Transfer to SAP** button to copy the data from the template to the sales quote in Business One.

Sales Quotation

Customer: C20000 No. Primary: 44
 Name: Norm Thompson Status: Open
 Contact Person: Norm Thompson Posting Date: 14/11/07
 Customer Ref. No.: Valid Until: 14/12/07
 Local Currency: Document Date: 14/11/07

Contents Logistics Accounting

Item/Service Type: Item Summary Type: No Summary

#	Item No.	Item Description	Quantity	Unit Price	Discount %	Rate	Price after Discount
1	LM4029	Lexmark 4029 Print	3	SD 1,827.36	10.000		USD 1,644.62
2	S9479	Installation	1	USD 200.00	0.000		USD 200.00
3	Mileage	Mileage	65	USD 0.35	0.000		USD 0.35
4					0.000		

Sales Employee: Brad Thompson Total Before Discount: USD 5,156.61
 Owner: Thompson, Brad Discount: %
 Freight: USD 5.00
 Rounding: Tax: USD 489.88
 Remarks: Total: USD 5,651.49

Kit Number: XL Est. Document: C:\Program Files\SAP\SAP Business One\Attachments\QU44.xls
 Production # Range: User Defined Print Configuration ID:

OK Cancel Edit XL ETD Copy From Copy To

- XL Estimator updates the sales order's quote line items with the estimate data for item no, description, price, etc. based on the **XL Est. Document** file that is saved in the user defined fields.
- The XL Estimator .xls file is saved unique to this quote and is available for editing later.
- When a quote is copied to a sales order; the MTO (Make to Order) function enables a production order to be created from the estimate.

Sales Order

CustomerC20000
NameNorm Thompson
Contact PersonNorm Thompson
Customer Ref. No.
Local Currency

No. Primary199
StatusOpen
Posting Date14/11/07
Delivery Date14/11/07
Document Date14/11/07

ContentsLogisticsAccounting

Item/Service TypeItemSummary TypeNo Summary

#	Item No.	Item Description	Quantity	Whse	Unit Price	Price after Discount	Gross Price	Total (LC)	Del. Date	In Stock	Pd...
1	LM4029	Lexmark 4029 Printer	3	01	USD 1,827.36	USD 1,644.62	USD 1,800.86	USD 4,933.86	14/11/07	75	
2	S9479	Installation	1	01	USD 200.00	USD 200.00	USD 219.00	USD 200.00	14/11/07	1,000	
3	Mileage	Mileage	65	01	USD 0.35	USD 0.35	USD 0.38	USD 22.75	14/11/07	10,000	
4											

Sales EmployeeBrad Thompson
OwnerThompson, Brad
RemarksBased on Sales Quotations 44.

Total Before DiscountUSD 5,156.61
Discount%
FreightUSD 5.00
Rounding
TaxUSD 489.88
TotalUSD 5,651.49

PdO Series:Primary

OKCancelEdit XLETD

MTO
Copy From
Copy To

Production Order

TypeSpecial
StatusReleased
Product No.LM4029
Product DescriptionLexmark 4029 Printer
Planned Quantity3
Warehouse01

ECN Rev #
UoM ea

ComponentsSummary

R.#	S#	Type	Item No.	Item Description	Qty	S/U	Run	Plan	Issued	Avail	UoM	WHS
1	10	D	ASSEMBLY	ASSEMBLY	2			3		5,333.296	HRS	DL
2	10	M	LM4029ACA	Lexmark 4029 AC Adaptor	2			8.12		-96.3	ea	01
3	10	M	LM4028ACPC	Lexmark 4028 AC Power Supply	2			9.18		-62.54	ea	01
4	10	M	LM4029APCD	Lexmark 4029 AC Power Cord	3			13.36		-80.9	ea	01
5	10	M	LM4029PD	Lexmark 4029 500sheet paper dr	1			8.15		-613.23	ea	01
6	10	M	LM4029MC	Memory Chip	1			9.18		-783.63	ea	01
7	10	M	LM4029SB	Lexmark 4029 System Board	1			10.21		-506.75	ea	01
8	20	M	LM4029PH	Lexmark 4029 Printer Head			1	3		-457.63	ea	01
9	30	O	OUTSIDE SERV	OUTSIDE SERVICE			2	3		-493	DYS	OS

Remarks

OKCancel

No. Primary311
Order Date14/11/07
Due Date14/11/07
Usermanager
OriginManual
Sales Order199
CustomerC20000

The above is the corresponding Production Order created based on the Quote and subsequent Sales order.

52 of 63

Production One Version 2005.8.21 User Guide

Reporting

Reports in Production One can be created using several reporting tools. The Query Wizard, Drag & Relate, XL Reporter, and Crystals Reports can all be used to create custom reports. Note the XL Reporter dashboard included with the demo database is a template.

Accounting Transactions

Production One accounting transactions are done using the SAP Business One's journal entry program. The Issue for Production and Receipt from Production transactions and related journal entries are viewable the **Summary Tab** of the production order.

See the set up section for recommended G/L account designations. Also see Appendix 1 for further explanation of journal entries.

Production One enables labor to be entered on the Bill of manufacturing allowing labor costs to be tied to a production order. This is made possible by the resource management setup which allows for the allocation of Direct Labor, Outside Services, Rework, and Setup costs to production orders. Each resource creates an item master data record so it can be added to the cost of the BOM.

Example of a Production Order

Production Order

Type	Standard	No.	Primary	40
Status	Released	Order Date	06/21/07	
Product No.	LM4029	ECN Rev #:	06/25/07	
Product Description	Lexmark 4029 Printer	User	manager	
Planned Quantity	2	UoM	Manual	
Warehouse	01	Sales Order	28	
		Customer	C41000	

Components Summary

R.	S#	Type	Item No.	Item Description	Qty	S/U	Run	Plan	Issued	Avail	UoM	WHS	Issue M...	Status
1	10	D	ASSEMBLY	ASSEMBLY			1	2		-681.83	HRS	DL	Manual	Not
2	10	M	LM4029MC	Memory Chip	2			4		-150	ea	01	Manual	Not
3	10	M	LM4029PD	Lexmark 4029 500sheet paper drav	1			2		-53	ea	01	Manual	Not
4	10	M	LM4029SB	Lexmark 4029 System Board	1			2		-61	ea	01	Manual	Not
5	10	A	LM4029PS	Lexmark 4029 Power Supply	1			2		-21	ea	01	Manual	Not
6	10	M	LM4029PH	Lexmark 4029 Printer Head	1			2		-53	ea	01	Manual	Not
7	20	O	OUTSIDE SERVICE	OUTSIDE SERVICE	2			4		-115	DYS	OS	Manual	Not
8	30	D	TESTING	TESTING		1		1	4	-762	HRS	DL	Manual	Not
9	40	D	SHIPPING	SHIPPING				1	2	-121	HRS	DL	Manual	Not
40		D						1						Not

Remarks: Lexmark 4029 Printer

OK Cancel

Issue for Production

Labor Collection

Employee: Tom Brady Resource: TESTING

Prod No.	Item ID	Seq	Type	Resource	Q	Run Time	Setup	Wait Time	Total Time
40	LM4029	30	D	TESTING	1		1		2

Post to Prod

Select Prod Orders... 1 Total Rows Returned v.2005.4.7.0

- The screen shot above shows the manual issue for labour using Data Collect One from the shop floor with a touch screen. When labour is issued to a job from

- Below is the screen shot of the journal entries created by the labour entry.

Receipt from Production

- The screen shot below shows the Receipt from Production journal entry.

The screenshot shows the 'Journal Entry' window with the following details:

Series	Number	Posting Date	Due Date	Doc. Date	Ref. 1	Ref. 2	Trans. Code	Remarks
Primary	381	06/28/07	06/28/07	06/28/07	111			Receipt from Production

Origin: SI, Origin No.: 111, Trans. No.: 381, Template Type: , Template: , Indicator: , Project: .

☐ Exchange Rate

Expand Editing Mode

#	G/L Acct/BP Code	Name	Debit	Credit	Due by
1	13400000-01-001-01	Inventory - Finished Goods (HO, USA, GA)	USD 486.00		06/28/07
2	13200000-01-001-01	Inventory - Work In Progress (HO, USA, GA)		USD 486.00	06/28/07
			USD 486.00	USD 486.00	

Buttons: OK, Cancel, ☐ Display in FC, ☐ Display in SC, Cancel Template

- The journal entry for the Receipt from Production transaction will be the same for both the manual receipt and the auto receipt method.

The journal entry below shows the Issue to Production transaction.

The screenshot shows the 'Journal Entry' window with the following details:

Series	Number	Posting Date	Due Date	Doc. Date	Ref. 1	Ref. 2	Trans. Code	Remarks
Primary	378	06/28/07	06/28/07	06/28/07	83			Issue for Production

Origin: SO, Origin No.: 83, Trans. No.: 378, Template Type: , Template: , Indicator: , Project: .

☐ Exchange Rate

Expand Editing Mode

#	G/L Acct/BP Code	Name	Debit	Credit	Due by
1	13200000-01-001-01	Inventory - Work In Progress (HO, USA, GA)	USD 270.00		06/28/07
2	13100000-01-001-01	Inventory - Raw Material (HO, USA, GA)		USD 220.00	06/28/07
3	13400000-01-001-01	Inventory - Finished Goods (HO, USA, GA)		USD 50.00	06/28/07
			USD 270.00	USD 270.00	

Buttons: OK, Cancel, ☐ Display in FC, ☐ Display in SC, Cancel Template

- The journal entry for the Issue to Production transaction will be the same for both the manual issue and the auto issue method.
- **Production Order Summary**

Production Order			
Type	Standard	No.	Primary 40
Status	Closed	Order Date	06/21/07
Product No.	LM4029	Due Date	06/25/07
Product Description	Lexmark 4029 Printer	User	manager
Planned Quantity	2	Origin	Manual
Warehouse	01	Sales Order	28
		Customer	C41000

Summary			
<u>Costs</u>		<u>Quantities</u>	
Actual Component Cost	USD 570.00	Planned Quantity	2
Actual Additional Cost		Completed Quantity	2
Actual Product Cost	USD 486.00	Rejected Quantity	
Total Variance	USD -84.00	<u>Dates</u>	
Variance Per Product	USD -42.00	Due Date	06/25/07
Variance %	-17.284	Actual Closing Date	06/28/07
Journal Remark	Production Order - LM4029	Overdue	3

Remarks	
Lexmark 4029 Printer	

- The Production Order Summary tab displays the actual cost compared to the product cost. Once the status is changed to closed, Business One creates a journal entry to post any variance amount to the WIP Variance account and to clear WIP.
- Drill down using the golden arrow for the journal remark to review the journal entry below that captures the variance.

Journal Entry

Series

Primary

Number

382

Posting Date

06/28/07

Due Date

06/28/07

Doc. Date

06/28/07

Ref. 1

40

Ref. 2

Trans. Code

Remarks

Production Order - LM4029

Origin

PW

Origin No.

40

Trans. No.

382

Template Type

Template

Indicator

Project

☐ Exchange Rate

Expand Editing Mode

#	G/L Acct/BP Code	Name	Debit	Credit	Due by
1	13200000-01-001-01	Inventory - Work In Progress (HO, USA, GA)		USD 84.00	06/28/07
2	52500000-01-001-01	WIP Material Variances (HO, USA, GA)	USD 84.00		06/28/07
			USD 84.00	USD 84.00	

OK

Cancel

☐ Display in FC
 ☐ Display in SC

Cancel Template

Appendix 1

- Below are examples of Journal Entry postings from SAP Business One with Production One and Data Collect One Add-Ons.
- See the warehouse set up under Production One Options for recommended G/L account set up.

GOODS RECEIPT (Resource Labour entry from Data Collect One)

INVENTORY ACCOUNT

\$150

INVENTORY OFFSET INCREASE

\$150

GOODS ISSUE (Resource Labour entry from DataCollectOne)

WIP MATERIAL ACCOUNT

\$150

INVENTORY ACCOUNT

\$150

OVERHEAD ADJUSTMENT (Resource Labour entry from DataCollectOne)

INVENTORY ACCOUNT

OVERHEAD ABSORPTION ACCOUNT

\$100	

	\$100

The overhead amount and G/L account is defined on the Resource

GOODS ISSUE (Issue for Production)

WIP MATERIAL ACCOUNT

\$100	

INVENTORY ACCOUNT

	\$100

GOODS RECEIPT (Receive from Production)

INVENTORY ACCOUNT

\$200	

WIP MATERIAL ACCOUNT

	\$200

RECORD VARIANCES AND CLEAR WIP ACCOUNT (Production Order Close)

WIP MATERIAL VARIANCE ACCOUNT

WIP MATERIAL ACCOUNT

\$50	

	\$50

Note: Variances are recorded only when materials and/or labour are issued in quantities greater or less than standard. The above Journal Entry reflects materials/labour issued more than standard.

Appendix 2

All available fields on the bill of manufacturing

<u>Bill of Manufacturing fields</u>	<u>Definition</u>
#	Line number
Comments	Comments (254 Characters)
Direct	Y/N : Defines if line is purchased direct to Production Order
DL Cost	Direct Labour cost (Future)
Height	Height : Item master
Issue Method	Back flush or Manual
Item Description	Description from Item Master
Item No.	Item Master code
Length	Length : item master
Material Qty	Quantity required for inventory materials only
Media File	Attach a media file : linked to Data Collect
OH Cost	Overhead cost (Future)
Operation Seq	Operation sequence
Operation Type	Defines the type of operation : linked to Operation Type menu
Price List	Defines the price list used to value the BOM
Quantity	B1 Quantity field used as total for material qty or labour qty
Run Time	Labour run time : included in Quantity field (total)
Scrap Pct	Scrap percent added to material quantity
Scrap Qty	Scrap quantity added to material quantity
Setup Time	Labour set up time : included in Quantity field (total)
Total	Total value of line : (quantity multiplied by unit price)
Tree Type	Indicates parent or child item
Type	Operation type : Icon display A, D, M, O, P
Unit Price	Item unit price
UoM	Unit of measure
Volume	Volume : item master
Wait Time	Labour wait time : included in Quantity field (total)
Warehouse	Warehouse code
Weight	Weight : item master
Width	Width : item master
Work Instructions	Text : 64000 characters

Appendix 3

This section intentionally left blank